PHENIX

Technical Support 2008

PHENIX
WEEKLY PLANNING

1/3/2008

Don Lynch

Run 8 Task Schedule

Technical Support 2008

Item	Start	Finish
RPC Tent preparation (see slides)	On Going	On Going
Next scheduled Maint. Day	1/16	1/16
Install new UPS	~2/2	~2/9
Switch to p+p run	~2/2	~2/9
Mu Trigger FEE Prototype II install	~2/2	~2/2
Complete new beampipe design	2/29	2/29
Install HBD West for test run	7/15	7/15
End of Run 8	3/1 ?	5/27 ?
End of Run Party	3/7 ?	6/13?
Install Gas house UPS's	3/7 ?	6/13

Yesterday's Maintenance Access Day

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- Bad LV replaced for MuTr North
- PC work;
- ArcNet problems delayed debugging; currently back to standalone mode
- Work on HV for MuID
- TOF-W recovered by itself
- ERT threshold changed to double rejection power;
- prescales updated

PHENIX magnet polarity reversed

Next Maintenance Access Day Scheduled for 1/16/08: No work requests yet

2008 PHENIX Shutdown Prep

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January-May 2008:

- Run 8 technical support
- RPC factory support
- new beam pipe design completion and review
- CM Crane design review and purchase placement
- Muon Trigger FEE prototype test
- MMN station 1 & 2 scaffolding design
- Muon Trigger Rack platform design and review
- RPC3 installation review (support structure, transport and installation fixture design, tunnel vapor barrier modification design, gas mixing and distribution system and piping design).
- VTX, FVTX & NCC technical support

CM Ladder/Stair Shutdown Access

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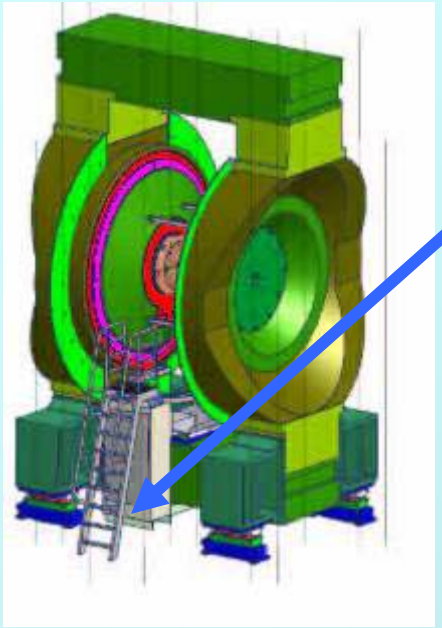
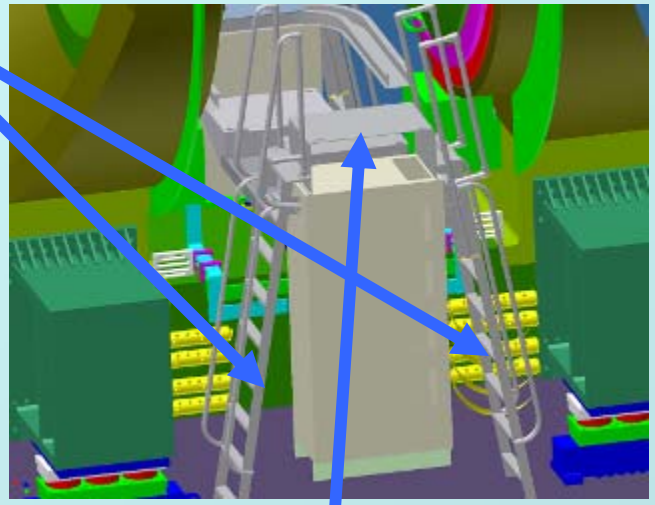


These ladders rec'd



Still waiting for Top of stair landing, in shop, expect ~ 2weeks

Field fit components during next few maintenance accesses; install on west during end of d-Au run access

RPC Factory Support

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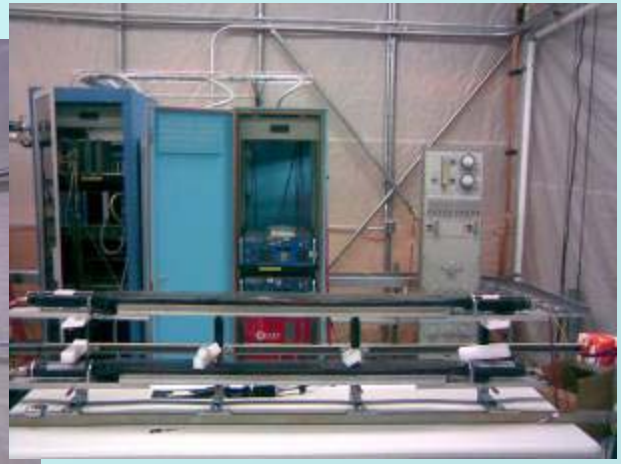
Cosmic Ray Test Stand
Near completion

Preliminary Safety walkthru
Last Friday: Asher, Yousef, Pete C.:

- Add lights and horns;
- modify control logic
- Safety system checkout (mini-bluesheet)
- Update work plan to include safety system description & checkout procedure, factory test and assembly procedure



Factory nearly ready to begin prototype tests

RPC Factory Issues, cont.

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Electrical – Done !! ?

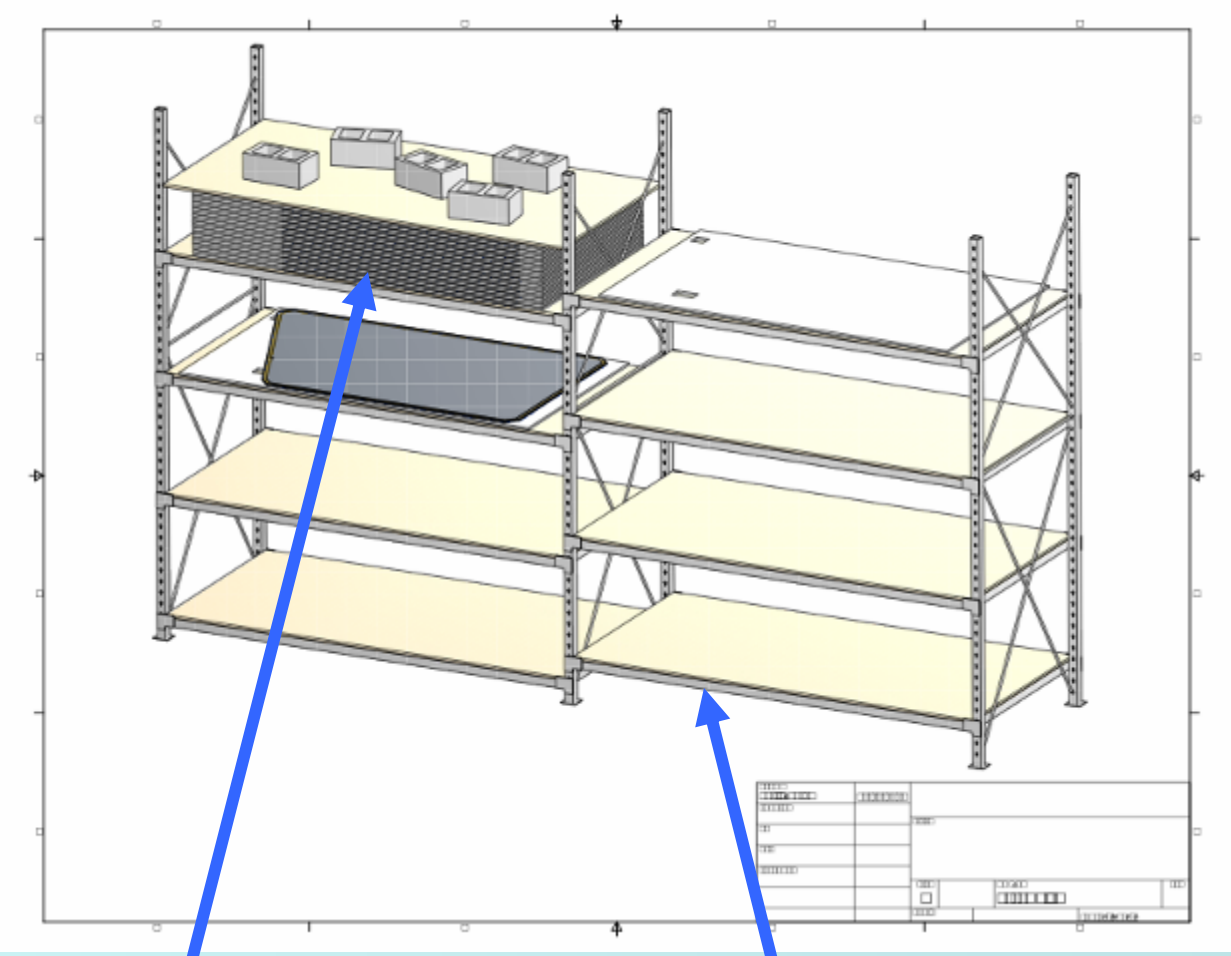
Safety systems – Installation complete, mini-blue sheet

Equipment – Need specs for T^3 (Tilting Transport Table) and GMHOS (gap, module and ½ octant storage) racks, then need to fabricate assemble and install.

Work plan – Add gas system description (Done) and checkout (mini-blue sheet procedure, in progress) to Gas system procedure as appendix A. Production operations require work plan update to include factory gas operation and final assembly/test procedures. To include gas specs (max flow Rates and gas holdup volume for all aspects of the facility.)

Security –RPC group to review C-A policy (3 tier requirement as required by C-A procedure 1.20) RPC group will prepare a one page description of how they intend to comply with this requirement. This will be reviewed by C-A.

GMHOS



20 RPC3C modules spaced apart by the 1/2 in foam spacer

HEAVY-DUTY Z-BEAM STORAGE RACK

Rusty's factory schedule for assembling 10 modules:

Gap QA (gas leak, HV, popped spacer) ~1week

Assembling modules (stacking, soldering, connect gas, HV, …) ~ 1 day/module or 2 weeks for 10

This schedule produces 10 modules in 3 weeks, which is about as fast as they can be tested in the cosmic test stand.

To assemble the modules for RPC3 N will take about 6 * 3 weeks = 18 weeks or 4.5 months.

RPC Factory Issues, cont.

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Area to the west of RPC factory is now re-posted and cordoned with yellow tape as a controlled area. A corridor has been left to access the bathroom. Any activities which will need to traverse the posted area (e.g. delivery of materials, equipment etc. through the roll up doors) will require a work permit

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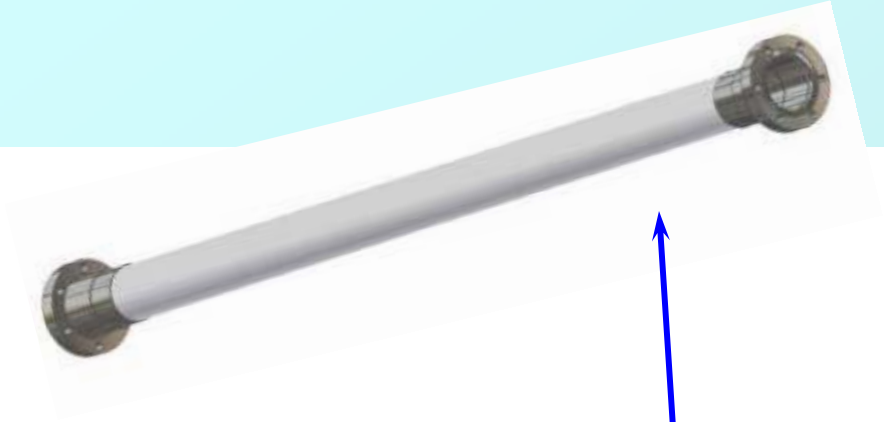
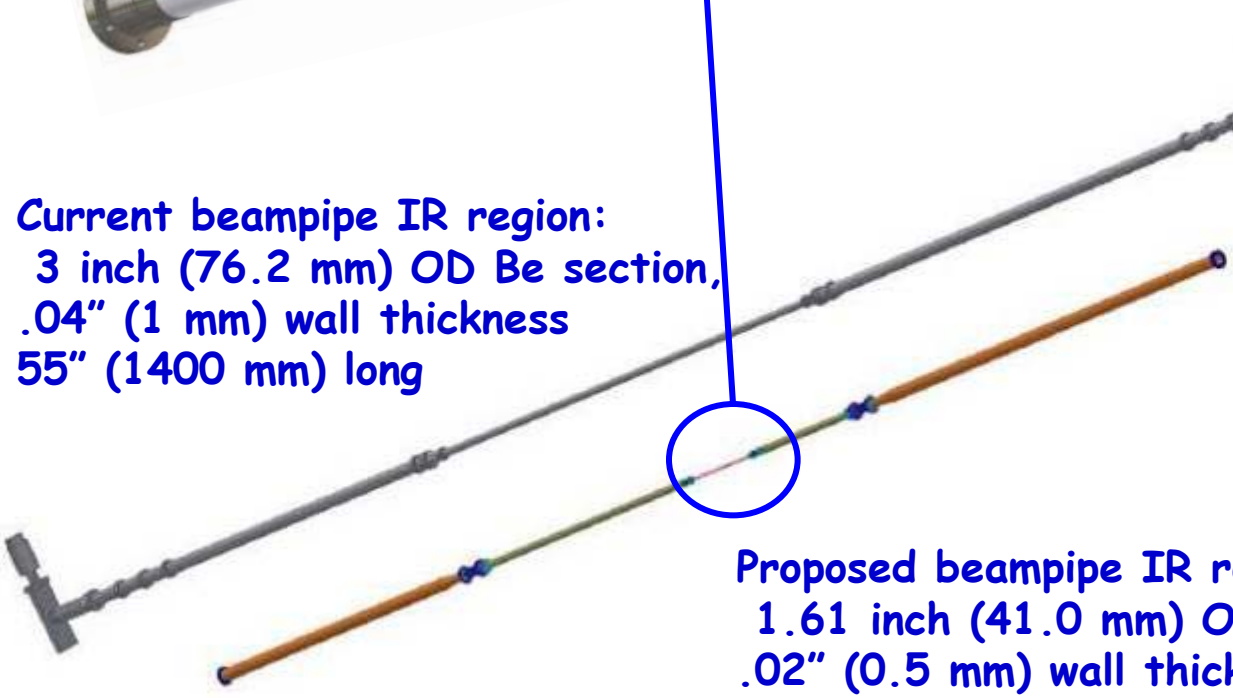
New Beampipe Design & Review



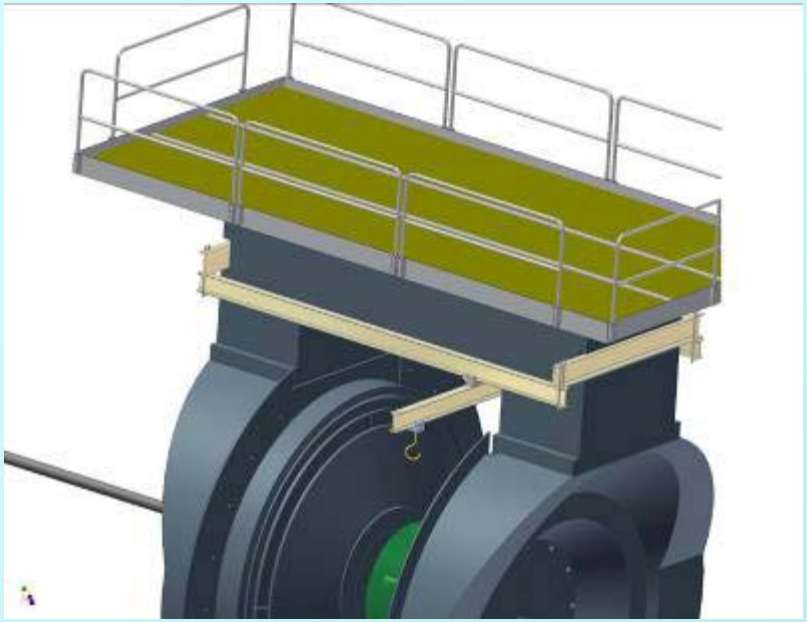
Current beampipe IR region:
3 inch (76.2 mm) OD Be section,
.04" (1 mm) wall thickness
55" (1400 mm) long



Design to be ready for final review by 2/29/08

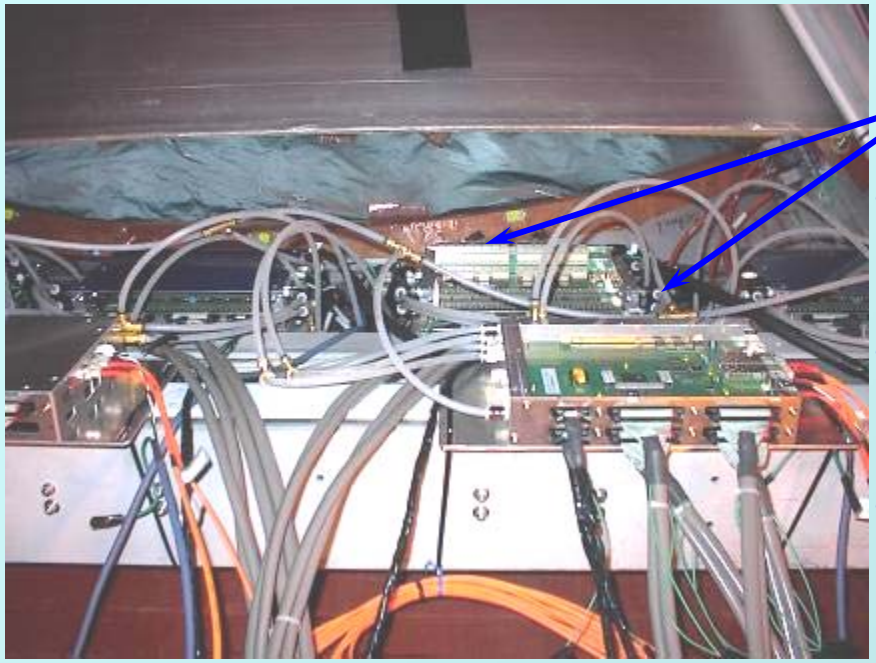
Proposed beampipe IR region:
1.61 inch (41.0 mm) OD Be section,
.02" (0.5 mm) wall thickness
31.5" (800 mm) long

CM Crane



- Crane Design nearly ready for review
- Uses Gorbel 1-ton capacity Ceiling mounted Bridge Crane, modified to be supported by 2 Steel Channels attached to CM
- Bridge and hoist to be removed for running.

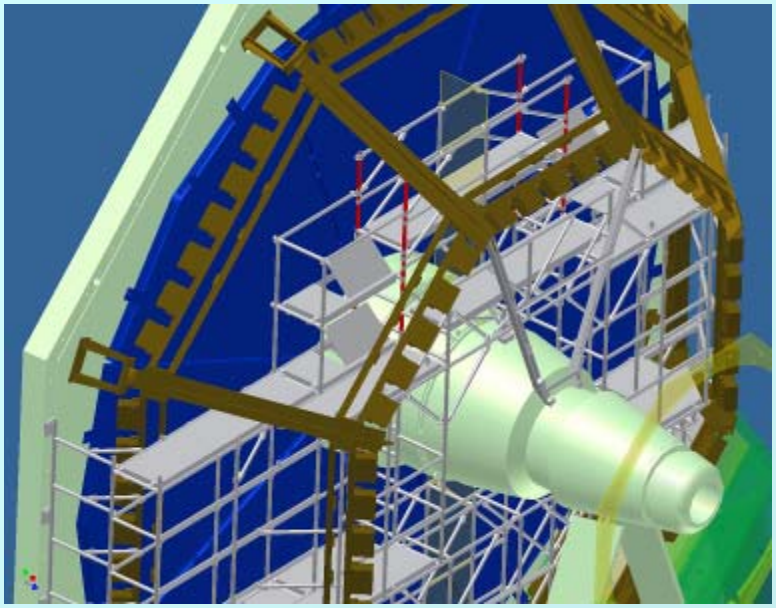
Muon Trigger FEE Prototype Test II

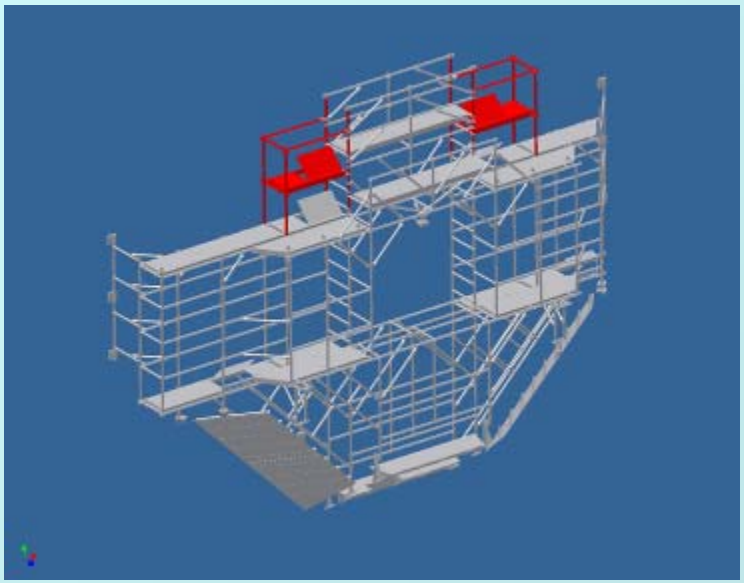


Test this past summer used separate AD and TX electronics.

- New plan combines the two into 1 more compact package.
- Experimental Safety Review is required
- Confined space work permit required.

MMN Scaffolding





Existing MMN MuTr scaffolding is being redesigned to be assemble-able with only one lampshade removed and access to all station 2&3 FEE's from lower hatch.

Additional scaffolding to be designed to access all Station 1 North FEE's and lampshade sites adjacent to station 1.

Station 1 North scaffolding to be useable for Station 1 South with minimal modification.

Station 2 & 3 South scaffolding to be addressed later

MMN Scaffolding

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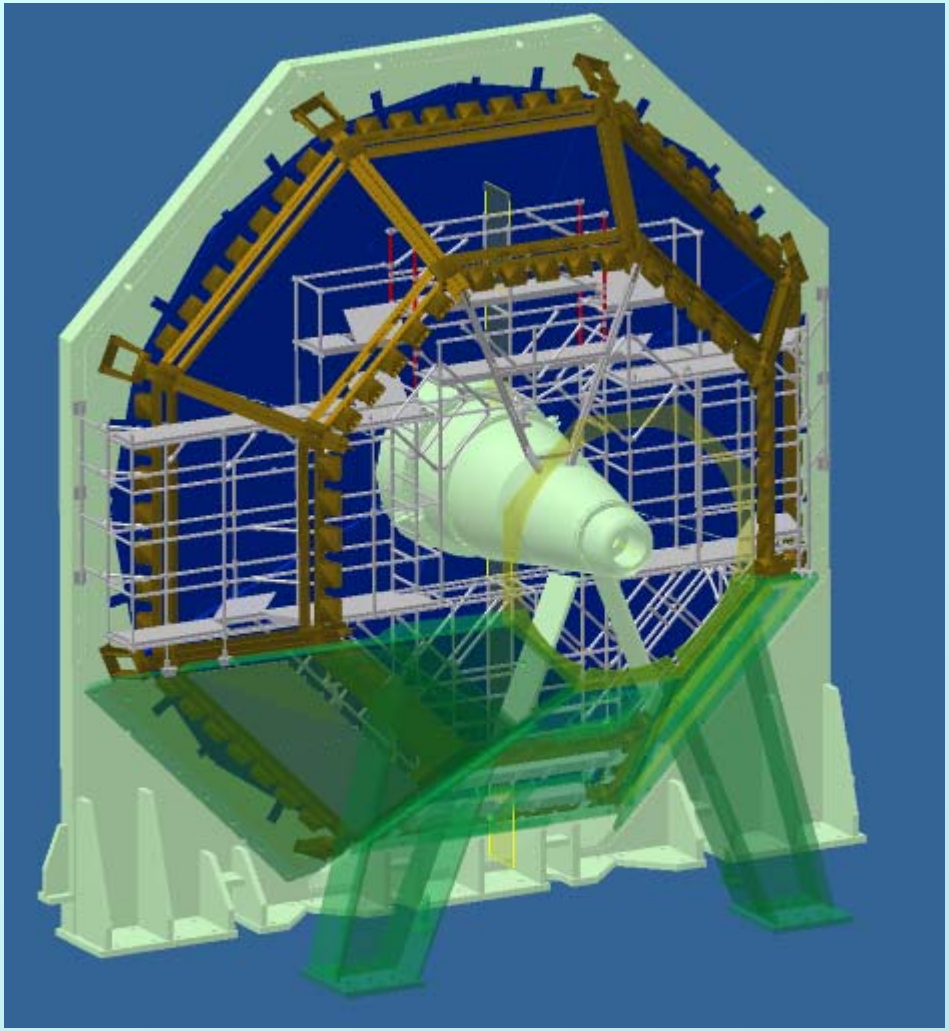
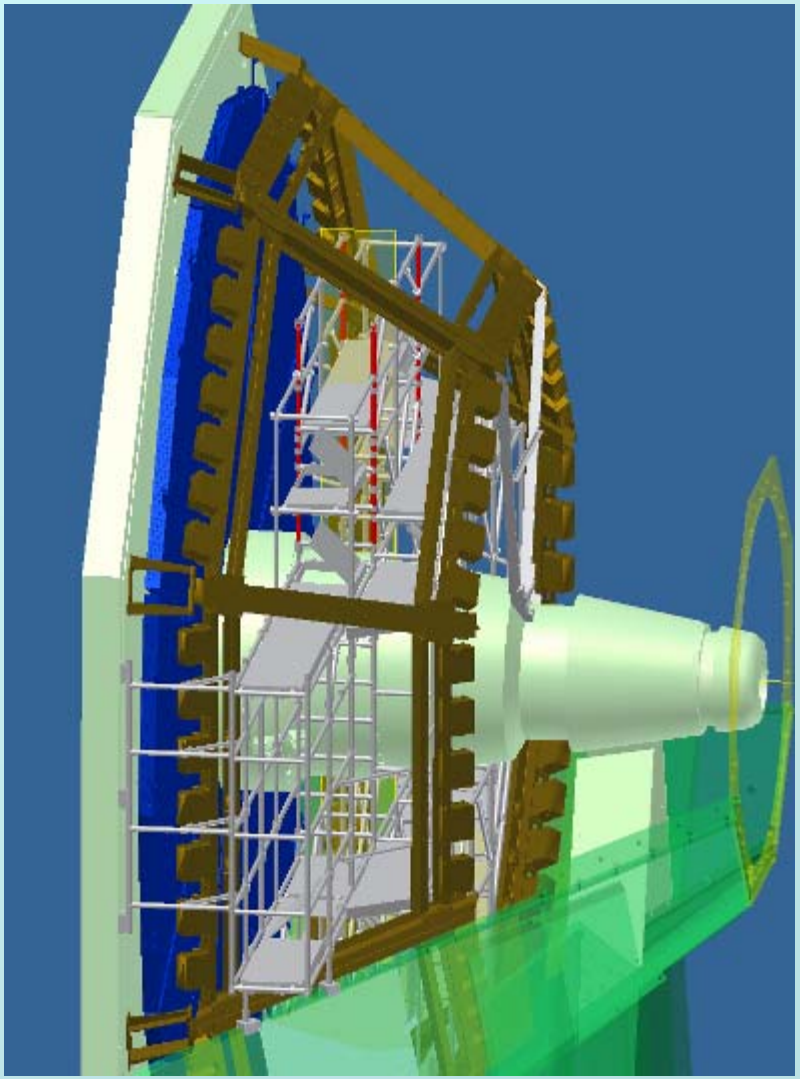
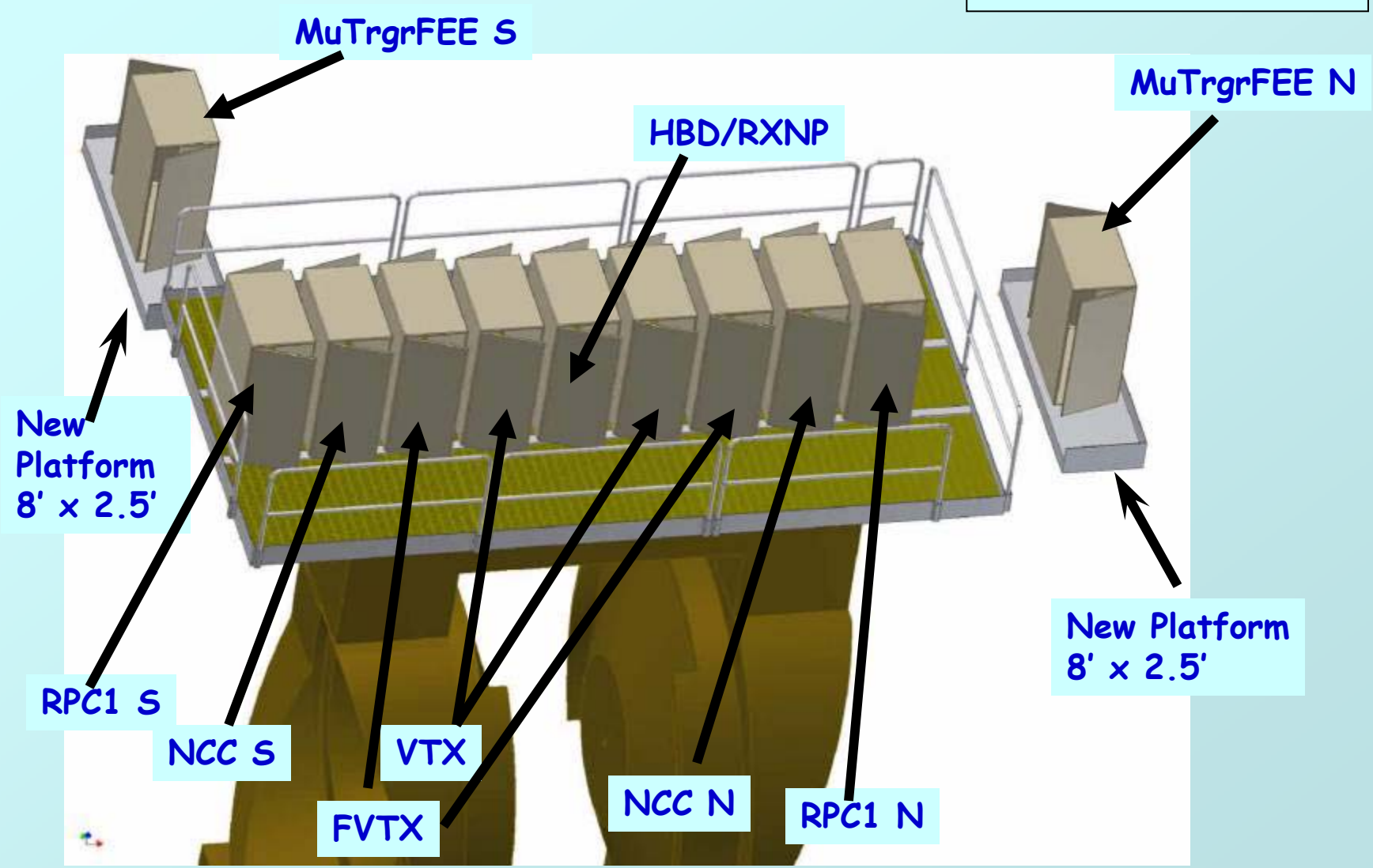




Muon Trigger Rack Platforms



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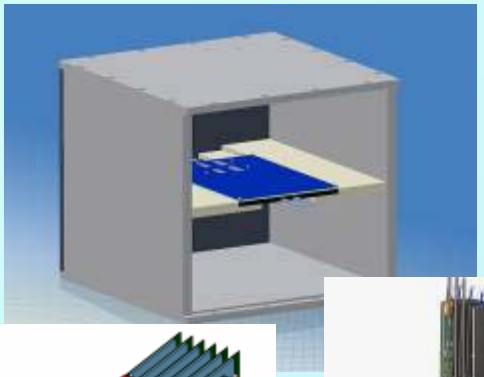
RPC 3 Design Review

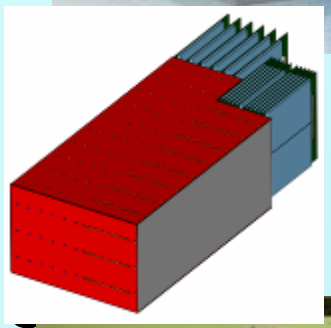
Technical Support

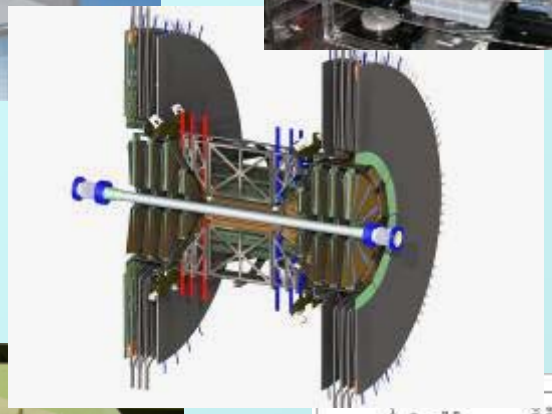
- 2008 shutdown: install one RPC 3 South and one RPC 2 South prototype half octant: requires installation fixtures, prototype gas system, modifications to tunnel vapor barriers, prototype electronics, cable routing support, and, of course, structural support design
- All require both functional and safety reviews (may be combined) by ~June 2008. Assume installation in Aug.-Sept. 2008.

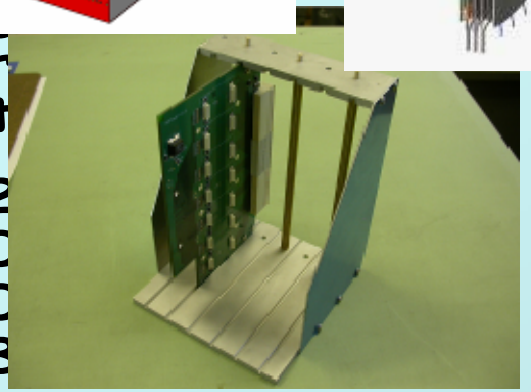
NCC, VTX & VFTX support

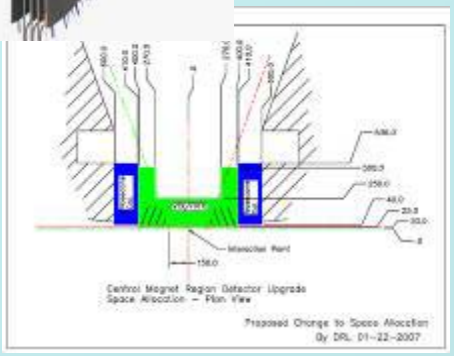
Technical Report 2008











- VTX, FVTX and NCC prototype support
- Integration
- Physical and Rack space
- Infrastructure upgrades

2008 PHENIX Shutdown

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June 2008: Remove MuID collar, disengage EC and move to AH, prep IR for shutdown work, remove MMS lampshade, begin MuTr "decapacitor" removal, continue RPC factory construction, receive and install CM crane, complete design reviews, prepare work permits, move CM south, 1 Cu absorber install

July 2008: Re-Install HBD, RPC prototype gas system, Move shielding for RPC installation, RPC prototype cable routing and support, modify crystal palace and tunnel vapor barrier, fabricate RPC installation fixtures, install MMN Station 2 & 3 scaffolding, TBD

August 2008: Install RPC prototypes, install Mu Trigger FEE's in MMS and MMN, Install N&S rack support platforms for Mu Trigger FEE's. Install MMN cooling water and air supply for MMN. TBD prototype tests, TBD infrastructure work

September 2008: Replace tunnel shielding, connect electronics, gas, water and air as necessary for RPC and Mu Trigger FEE,

October 2008: Prepare for run, EC into IR, install collars, build shield wall, etc.

November 2007: blue sheets, white sheets, close wall, start shifts, flam. Gas, physics

Other Work

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- Clean Out Container: Material is evaluated. Clean out and dispose by end of Nov.
- Procedure review – pick up where we left off
- JTA review – Nearly Complete

Safety, Security, Etc. :

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1. ICY on-site: Drive Carefully, Walk carefully. Be especially careful on steps.
2. Training: JTA evaluation:
   - Carter, Kenny, Jimmy, Mike L., Mike R., Frank, (Good) Sal, Steve, John T., Paul, Don, Rob and Richie
   - 40 JTA's identified comprised of 64 different courses, 37 of which are one-time; 27 are renewable
   - For all listed I have broken down the courses to J (JTA requirement), R (Required, but not listed on JTA), O (optional, probably should), N (not required), S (satisfied by some other requirement)

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JTA	Course	Renew frequency	C. Biggs	K. Jones	J. LaBounty	M. Lenz	F. Toldo	J. Tradeski	S. Boose	P. Giannotti	D. Lynch	R. Pisani	S. Polizzo
PO-01 Physics department member	PO-RADALARA	1 time	J	J	J	J	J	J	J	J	J	J	J
	TQ-SAFEAWARE	1 time	J	J	J	J	J	J	J	J	J	J	J
PO-02 Physics supervisor	TQ-OSH-019W	*1 time*	J	N	N	N	N	N	R	R	R	N	N
	TQ-SL-SUP	*1 time*	J	N	N	N	N	N	R	R	R	N	N
PO-06 Physics Dept. Elect Safety 1 - Authorized Worker	PO-ELECSAFETY	3 yr	N	N	N	N	R	N	J	R	N	N	R
	TQ-ELECSAF1	2 yr	N	N	N	N	S	N	J	R	N	N	R
GE-10B LEVEL II Rad work control coordinator	*(HP-RWT001 [*satisfied by AD-CA_COLLIDER_EXAM which is equivalent])*	*see RC-P8*	S	N	N	N	N	N	S	S	S	R	N
	TQ-WORKPLAN-MO	*1 time*	S	N	N	N	N	N	S	S	S	R	N
GE-10D Work Control Coordinator-Experimental	GE-WCC-PRAC	*1 time*	J	N	N	N	N	N	R	J	J	N	N
	HP-OSH-150A	*1 time*	J	N	N	N	N	N	R	J	J	N	N
	QA-SCI-3A	*1 time*	J	N	N	N	N	N	R	J	J	N	N
	TQ-DBSA	*1 time*	J	N	N	N	N	N	R	J	J	N	N
	TQ-WORKPLAN-ST	*1 time*	J	N	N	N	N	N	R	J	J	N	N
GE-12 Static magnetic field qualified	TQ-SMF	3 yr	R	R	R	R	R	R	R	R	R	R	J
GE-22 Welding, Cutting, Brazing and Fire Watch qualified	TQ-FIRE-EXT	3 yr	O	N	N	N	N	O	N	N	N	N	N
	TQ-FIRE-EXT-P	3 yr	O	N	N	N	N	O	N	N	N	N	N
	TQ-FIREWATCH	3 yr	O	N	N	N	N	O	N	N	N	N	N
GE-25A Technical Rep	PR-CONTRACT-SBMS	3 yr	J	N	N	J	O	O	R	J	J	R	N
GE-46B Heat stress prevention	TQ-HEATSTRESS	1 time	R	R	R	R	R	R	R	R	R	R	R
GE-47 Local Emergency Coordinator	TQ-LEC	1 time	N	N	N	N	N	N	N	J	N	N	N
GE-48D Aerial lift OJT evaluator	*(GE-FALLPROTECT)*	*see GE-81*	N	O	O	O	N	N	N	N	N	N	N
	(TQ-AERIAL-C)	*see GE-80*	N	O	O	O	N	N	N	N	N	N	N
	TQ-AERIAL-EVAL	3 yr	N	O	O	O	N	N	N	N	N	N	N
	(TQ-AERIAL-P)	*see GE-80*	N	O	O	O	N	N	N	N	N	N	N
GE-53E BNL Employee	GE-CIA	1 time	J	J	J	J	J	J	J	J	J	J	J
	GE-CYBERSEC	1 time	J	J	J	J	J	J	J	J	J	J	J
	GE-EMERGPLAN	1 time	J	J	J	J	J	J	J	J	J	J	J
	GE-ENV-GET	1 time	J	J	J	J	J	J	J	J	J	J	J
	GE-STOPWORK	1 time	J	J	J	J	J	J	J	J	J	J	J
	HP-V-001	1 time	J	J	J	J	J	J	J	J	J	J	J
	TQ-GET2004	1 time	J	J	J	J	J	J	J	J	J	J	J
	TQ-PROTECTID	1 time	J	J	J	J	J	J	J	J	J	J	J
	TQ-SAFEAWARE	1 time	J	J	J	J	J	J	J	J	J	J	J
GE-56 Overhead crane operator	HP-Q-010-W	3 yr	R	J	R	R	N	J	N	N	N	N	N
	TQ-RIG-C	3 yr	R	J	R	R	N	J	N	N	N	N	N
	TQ-RIG-P	3 yr	R	J	R	R	N	J	N	N	N	N	N

5 Year Plan

Technical Support 2008

2008	Install stations 1& 2 of MuTr FEE upgrades (north), 1 octant Cu absorber (S), 2 half otants RPC2/3 S, infrastructure upgrades & repairs, misc. subsystem work, MMN scaffolding
2009	Scaffolding in MMS, MuTr FEE N stn. 1,2 & 3, MuTr N&S stn. 1,2 & 3 repairs, RPC2 N, RPC3 N, north Cu absorbers, infrastructure upgrades & repairs, misc. subsystem work
2010	Remove HBD & RXNP, remove beampipe, DC West upgrade, VTX barrel, south Cu absorber completed, MuTr FEE stn. 3 S, MuTr stn. 1, 2 & 3 S repairs, infrastructure upgrades & repairs, misc. subsystem work
2011	RPC1 N&S, NCC S, FVTX, infrastructure upgrades & repairs, misc. subsystem work, remove south absorber
2012	NCC N, upgrades contingency & wishlist, infrastructure upgrades & repairs, misc. subsystem work, remove north absorber

** Years refer to the shutdown year and follow the run with the similar number (i.e. work in 2008 is to be done in the shutdown that follows run 8, and so on)*

Where To Find PHENIX Technical Info

Links for the weekly planning meeting slides, long term planning, pictures, videos and other technical info can be found on the web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm